

What is claimed is:

- 1 1. An antenna device of transmission line type comprising:
2 two antenna elements opposed to each other, a signal being
3 fed between said two antenna elements; and
4 a variable-capacitance unit capable of changing the
5 electrostatic capacity, said variable-capacitance unit being
6 provided at one or both of connection points at which opposite
7 ends of said two antenna elements are connected to each other.

- 1 2. The antenna device according to claim 1, wherein the length
2 of each of the portions of said two antenna elements on the
3 opposite sides of a feed point is equal to or smaller than
4 1/4 of the wavelength of the fed signal.

- 1 3. The antenna device according to claim 1, wherein said
2 two antenna elements are spaced apart from each other by a
3 distance smaller than the wavelength of the fed signal.

- 1 4. The antenna device according to claim 1, wherein said
2 variable-capacitance unit has a variable-capacitance diode,
3 the electrostatic capacity of which changes according to a
4 direct-current voltage applied between the anode and the
5 cathode, and a predetermined direct-current voltage is applied
6 to the variable-capacitance diode from a voltage control unit.

1 5. An antenna device of transmission line type comprising
2 two antenna elements opposed to each other, a signal being
3 fed between said two antenna elements, wherein said two antenna
4 elements are spaced apart from each other by a distance smaller
5 than the wavelength of the fed signal.

1 6. The antenna device according to claim 5, wherein the length
2 of each of the portions of said two antenna elements on the
3 opposite sides of a feed point is equal to or smaller than
4 $1/4$ of the wavelength of the fed signal.

1 7. The antenna device according to claim 5, wherein said
2 two antenna elements have a variable-capacitance unit capable
3 of changing the electrostatic capacity, said
4 variable-capacitance unit being provided at one or both of
5 connection points at which opposite ends of said antenna
6 elements are connected to each other.

1 8. The antenna device according to claim 7, wherein said
2 variable-capacitance unit has a variable-capacitance diode,
3 the electrostatic capacity of which changes according to a
4 direct-current voltage applied between the anode and the
5 cathode, and a predetermined direct-current voltage is applied
6 to the variable-capacitance diode from a voltage control unit.

1 9. A transmitter-receiver comprising the antenna device
2 according to claim 1, the antenna device being mounted along
3 peripheral side portions of a frame.

1 10. A transmitter-receiver comprising the antenna device
2 according to claim 2, the antenna device being mounted along
3 peripheral side portions of a frame.

1 11. A transmitter-receiver comprising the antenna device
2 according to claim 3, the antenna device being mounted along
3 peripheral side portions of a frame.

1 12. A transmitter-receiver comprising the antenna device
2 according to claim 4, the antenna device being mounted along
3 peripheral side portions of a frame.

1 13. A transmitter-receiver comprising the antenna device
2 according to claim 5, the antenna device being mounted along
3 peripheral side portions of a frame.

1 14. A transmitter-receiver comprising the antenna device
2 according to claim 6, the antenna device being mounted along
3 peripheral side portions of a frame.

1 15. A transmitter-receiver comprising the antenna device
2 according to claim 7, the antenna device being mounted along
3 peripheral side portions of a frame.

- 1 16. A transmitter-receiver comprising the antenna device
- 2 according to claim 8, the antenna device being mounted along
- 3 peripheral side portions of a frame.